

AMENDMENTS TO THE CLAIMS

Claims 1-25 (Currently Cancelled)

26. (New) A method for dynamically inverting an Asymmetric Digital Subscriber Line (ADSL) system comprising a central exchange equipment (CE) connected to a service provider network and a user equipment (UE) connected to a user workstation, wherein said CE and said UE are interconnected by a PSTN link, said CE including an ADSL transceiver and a splitter coupled between said CE transceiver and said PSTN link, said CE splitter including a low-pass filter for separating low frequency voice signals from high frequency ADSL signals transmitted from said UE over said PSTN link, said method comprising:

generating an invert request message encoded as a tone sequence within said UE and transmitted to said CE over said PSTN link;

receiving the tone-encoded invert request through the CE splitter low-pass filter; and

decoding the received tone-encoded invert request utilizing a tone decoder communicatively coupled between the CE splitter low-pass filter and said CE transceiver.

27. (New) The method of claim 26, wherein said CE transceiver includes an input line from said service provider network and an output line to said service provider network and further includes CE coding/decoding means that, in a non-inverted ADSL operating mode, ADSL code high-speed data received from the service provider network on the CE transceiver input line and decode medium-speed ADSL data to be delivered to the service provider network over the CE transceiver output line, said method further comprising, responsive to said CE transceiver detecting the decoded invert request message, activating the CE coding/decoding means to ADSL code medium-speed data received on said CE transceiver input line and decode high-speed ADSL data to be delivered to the service provider network over said CE transceiver output line.

28. (New) The method of claim 27, wherein said activating the CE coding/decoding means includes:

receiving the decoded invert request message at a processing engine within said CE transceiver, wherein said processor is communicatively coupled between said tone decoder and said CE coding/decoding means; and

responsive to receiving the decoded invert request message, delivering an activate command from said processor to said CE coding/decoding means.

29. (New) The method of claim 26, wherein said UE includes an ADSL transceiver, said generating an invert request comprising generating a tone sequence utilizing a tone generator communicatively coupled between said UE transceiver and said PSTN link.

30. (New) The method of claim 29, wherein said generating an invert request message encoded as a tone sequence is initiated responsive to said tone generator receiving an invert request command from a UE transceiver processing engine.

31. (New) The method of claim 29, wherein said UE includes a UE transceiver having an input line from said user workstation and an output line to said user workstation and further having UE coding/decoding means that, in a non-inverted ADSL operating mode, ADSL code medium-speed data received from the user workstation over the UE transceiver input line and decode high-speed ADSL data to be delivered to the user workstation over the UE transceiver output line, said method further comprising, responsive to the invert request message, activating said UE coding/decoding means to ADSL code high-speed data received from the user workstation on the UE transceiver input line and decode medium-speed ADSL data to be delivered to the user workstation over the UE transceiver output line.

32. (New) The method of claim 31, wherein said UE further includes a splitter coupled between said UE transceiver and said PSTN link, said UE splitter comprising a low-pass filter for

separating low frequency voice signals from high frequency ADSL signals transmitted from said CE over said PSTN link, and wherein said tone generator is communicatively coupled between said UE transceiver and said UE low-pass filter.

33. (New) The method of claim 32, further comprising, responsive to said CE transceiver detecting the decoded invert request message, generating and transmitting a first acknowledge message from said CE to said UE.

34. (New) The method of claim 33, wherein said generating and transmitting a first acknowledge message comprises:

generating the first acknowledge message encoded as a tone sequence within said CE and transmitted to said UE over said PSTN link;

receiving the tone-encoded acknowledge message through the UE splitter low-pass filter;
and

decoding the received invert request utilizing a tone decoder communicatively coupled between the UE splitter low-pass filter and said UE transceiver.

35. (New) The method of claim 33, further comprising, responsive to said UE receiving the first acknowledge message, generating and transmitting a second acknowledge message from said UE to said CE, wherein said second acknowledge message is a tone sequence generated by said tone generator.

36. (New) The method of claim 35, further comprising:

responsive to said CE transceiver detecting said invert request message, storing data received by said CE transceiver from said service provider network in a FIFO buffer; and

responsive to said CE transceiver detecting said second acknowledge message, initiating inverted mode transmission from said CE to said UE.